EDC 430/431: Methods & Materials in Secondary Teaching
Weekly Schedule and Assignments

Note: Readings and assignments are due the day listed (e.g. First readings are due 9/17
Specific nightly activities may vary from original plans.

Class	Topic	Assignments Due by Start of Class
Class 1 9/10	Course Goals and Requirements How Students Learn: • Concept map activity – How do students learn science? • What does it mean to understand? Introduction to URIteacherknowledge Wiki	• Bring in an inquiry activity such as a laboratory report.
Class 2 9/17	Scientific Literacy • What is scientific literacy? • How should this influence what we should teach? How do students learn science? • What are the state and national goals for science education? Constructing understanding • How can we engage students in constructing understanding? What are effective teaching resources? • What resources are out there? • How do I analyze textbooks and other curriculum resources? • What are the characteristics of effective curriculum material?	Readings • *How Students Learn*, Chapter 1: Introduction • *Standards – National Science Education Standards*, Chapter 1: Introduction Written Assignment Due • Post your first rationale statement that supports your method of science teaching on URIteacherknowledge.
Class 3 9/24	Effective curriculum resources, cont. How do I plan for instruction? • How do I identify student learning goals? • How do I translate goals into curricula? Worksession: Unpacking Learning Goals	Readings • *Benchmarks,* Chapters 1: Nature of Science • *Standards*, Chapter 2: Principles and Definitions • Article: The Trouble with Textbooks - http://www.project2061.org/publications/articles/articles/asee.htm • AAAS Textbook Criteria - http://www.project2061.org/events/meetings/textbook/literacy/cdrom/CRITERIA/CRITERIA.HTM Assignment • Discuss Unit Design with Cooperating Teacher Written Assignment Due • Post course syllabus on URIURIteacherknowledge wiki.

Class 4 10/1	Planning Instruction cont. • Student conversations as a component of planning • How do I prepare a demonstration lesson? Laboratory Safety: • How do I ensure the safety of my students? Worksession: Lesson Planning	Readings • *The Science Teacher* article: Discrepant Event Demonstrations (W) • *Select Benchmark,s Nation Standards*, or State Standards related to your discipline. • Chiappetta & Koballa, Chapter 3: Planning to Teach Science • Science & Safety: Making the Connection Written Assignment Due • Post review of first professional journal article on URIteacherknowledge wiki
Class 5 10/8	Scientific Inquiry Practices: • How do I promote inquiry? A focus on scientific practices – designing investigations, data analysis, explanation, and modeling Planning a laboratory/inquiry lesson • Should teachers or students drive the investigation? • How open-ended does the inquiry need to be? • What makes a good question to investigate?	Readings • *Standards*, Chapter 3: Science Teaching Standards Written Assignment Due • Post Textbook Review on URIteacherknowledge wiki
Class 6 10/16	Lesson 1 Sharing – Demonstration Lesson Worksession: Lesson Planning	Readings • One *Science Teacher* article describing an inquiry lesson in your discipline. See *the URIteacherknowledge* wiki for a list of themes of *ST* issues.
Class 7 10/22	Lesson 1 Sharing – Demonstration Lesson cont. Technology in Teaching: • How can I use technology in my teaching? Why should I want to use it? What types of tools are available?	Written Assignment Due • Post Demonstration Lesson on URIteacherknowledge wiki
Class 8 10/29	Sharing Unit Plan Ideas Worksession: Unit Plans	Readings • Using Technology to Support Inquiry in Middle School Science, Novak & Krajcik Written Assignment Due • Post review of second professional journal article on URIteacherknowledge wiki
Class 9 11/5	Lesson 2 Sharing - Investigation/Inquiry Lesson	Readings • *Standards*, Chapter 6: Science Content Standards pages 103 - 113, 143 – 204 Written Assignments Due • Post Investigation/Inquiry Lesson on

		URIteacherknowledge wiki • Post revision of Demonstration Lesson (lesson 1) (optional)
Class 10 11/12	Lesson 2 Sharing – Investigation/Inquiry Lesson cont. Worksession: Sharing/Reviewing Unit Plans	Readings • *Classroom Assessment and the National Science Education Standards,* Chapters 3 and 4 Written Assignment Due • Post Unit Design Draft on URIteacherknowledge wiki • Schedule Unit Design conference
Class 11 11/19	Assessment Issues: • How do I prepare assessment activities? • How can we tell if students understand? • How do we provide helpful feedback?	Readings • *Standards*, Chapter 5: Assessment in Science Education Written Assignment Due • Post revision of Inquiry Lesson (lesson 2) (optional)
Class 12 11/26	Collaboration: • How can I help students share ideas? • How can we promote collaboration in the classroom? What is collaboration?	Readings • Learning with Peers: From Small Group Cooperation to Collaborative Communities, Blumenfeld, Marx, Soloway & Krajcik Written Assignment Due • Post final Unit Plan
Class 13 12/3	Practicing teacher panel.	Readings • *Standards*, Chapter 4: Standards for Professional Development
Class 14 12/10	Classroom Management: How do I manage classrooms? Why is classroom management important? Wrap-up: Reflecting back on your goals – Have your goals changed? Why? Looking ahead.	Readings • *The Science Teacher* article: Starting the Year Off Right Written Assignments Due • Post revision of teaching rationale

Books Online:

- *Benchmarks*: http://www.project2061.org/tools/benchol/bolframe.html
- *Standards:* http://www.nap.edu/readingroom/books/nses/html/
- Note: The following two books you can read online page by page or you can buy pdfs of the relevant chapters.
- *How Students Learn: History, Mathematics and Science in the Classroom:* http://www.nap.edu/books/0309074339/html/
- *Classroom Assessment and the National Science Education Standards*: http://www.nap.edu/books/030906998X/html/